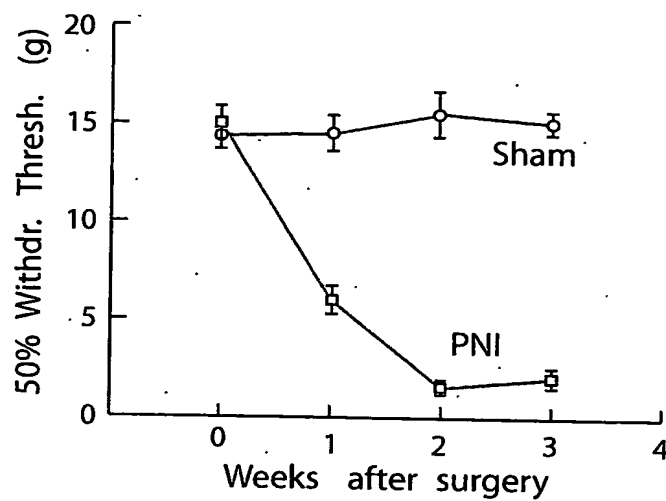
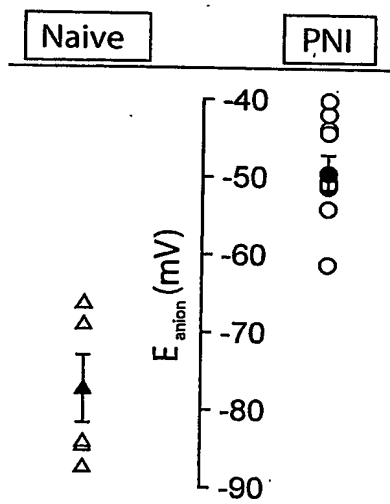
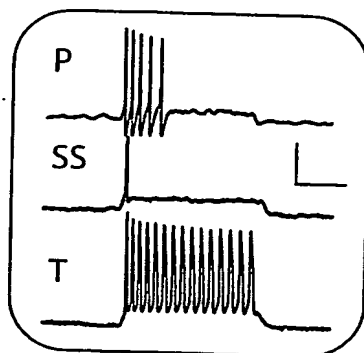
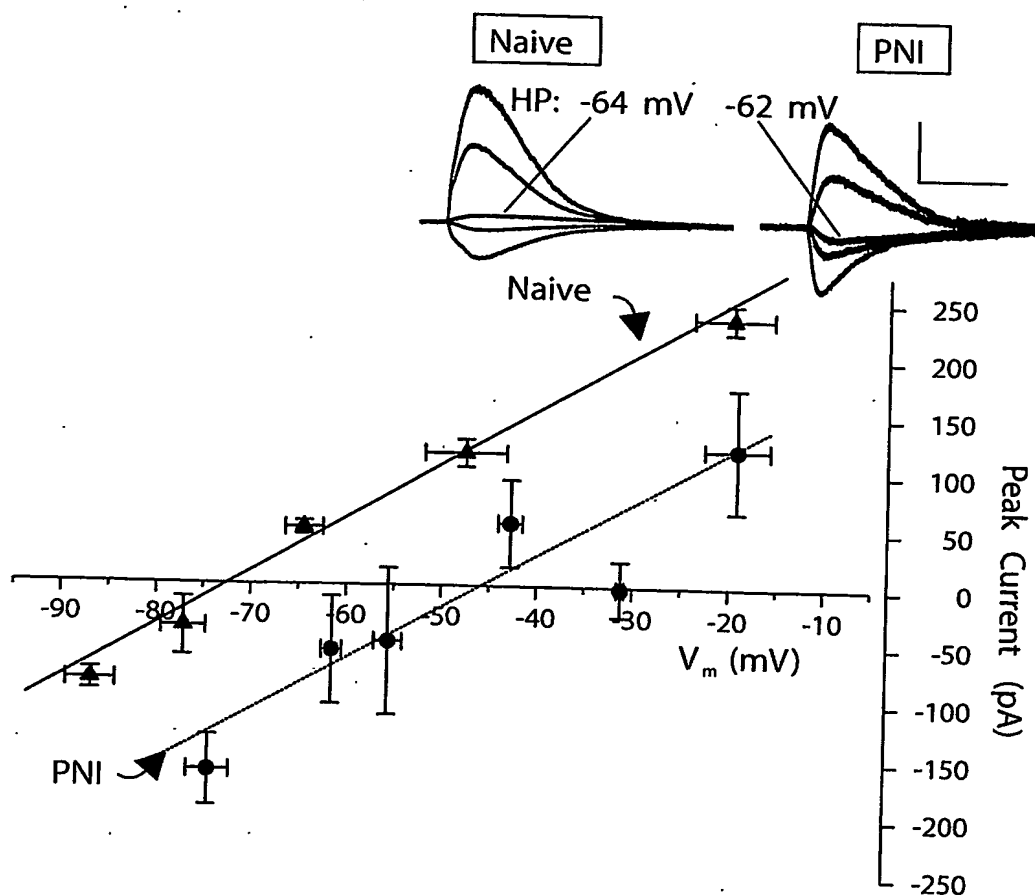


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**FIG. 1A****FIG. 1B**

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**FIG. 1C****FIG. 1D**

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Naive

HP = 0 mV  
ControlHP = -60 mV  
Control

Strychnine

CNQX

FIG. 2A

PNI

Control

Control

Strychnine

CNQX

Strychnine + Bicuculline

FIG. 2B

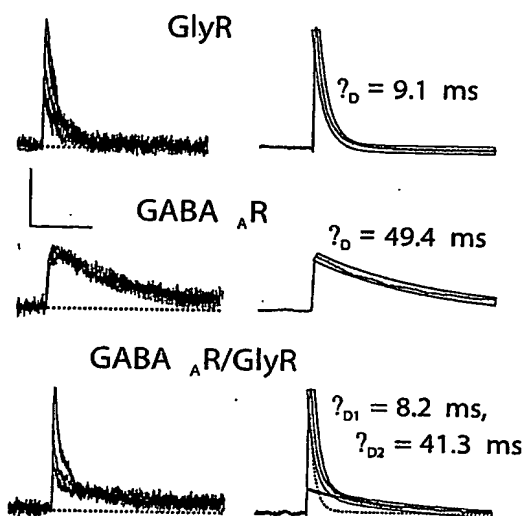


FIG. 2C

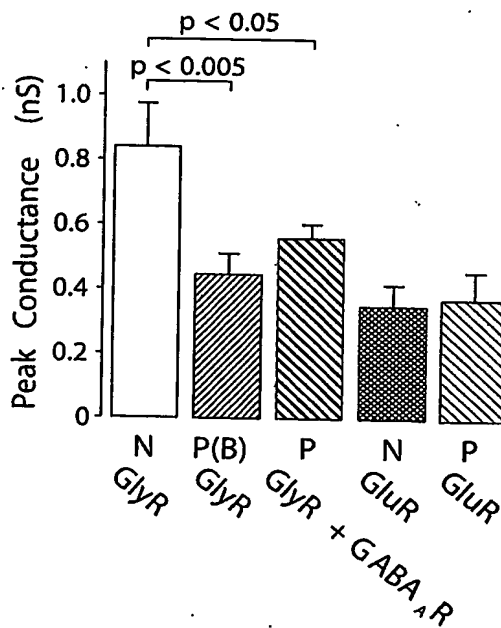
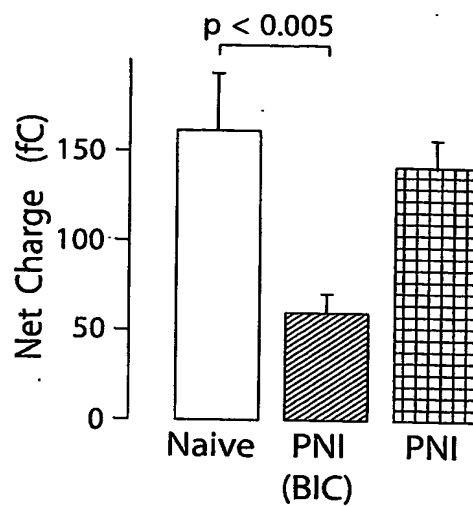
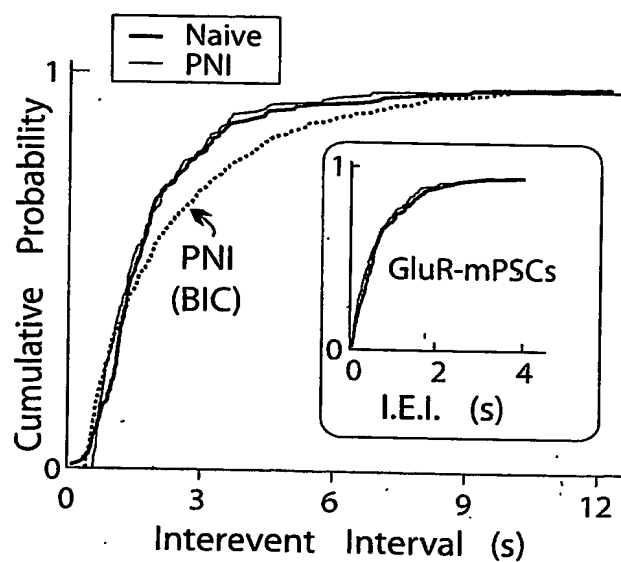
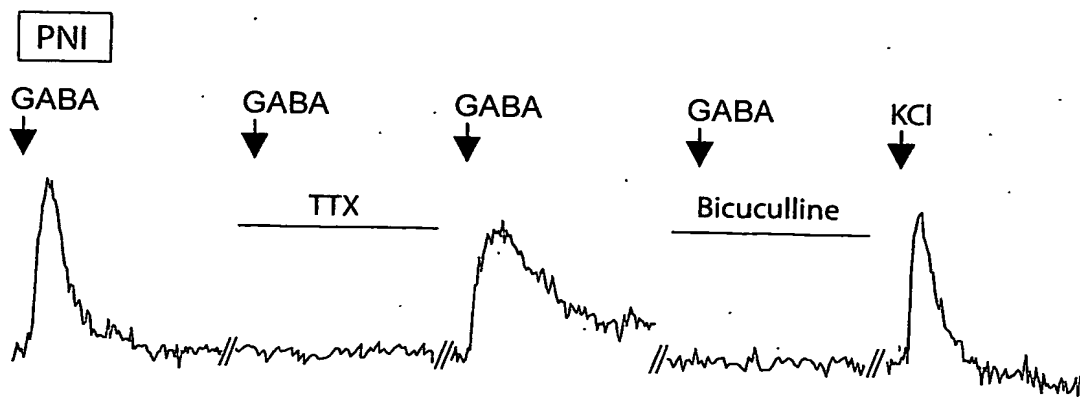
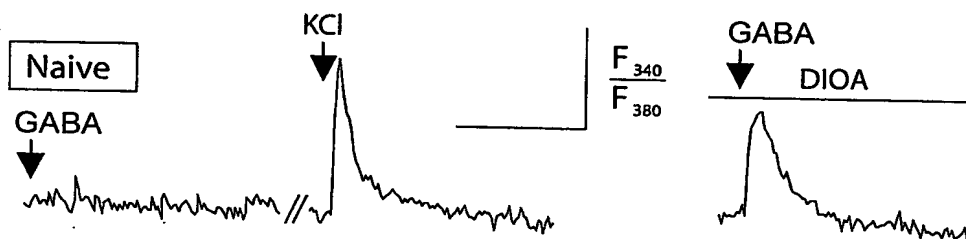
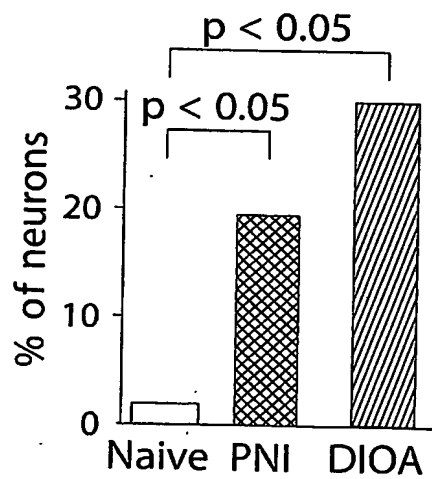


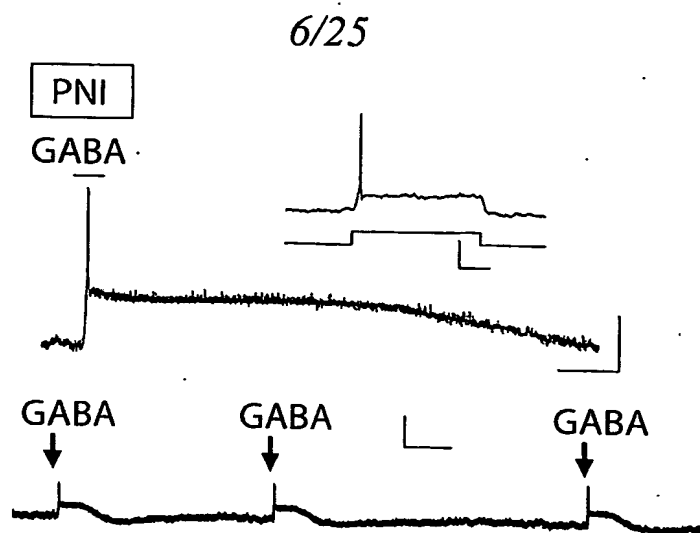
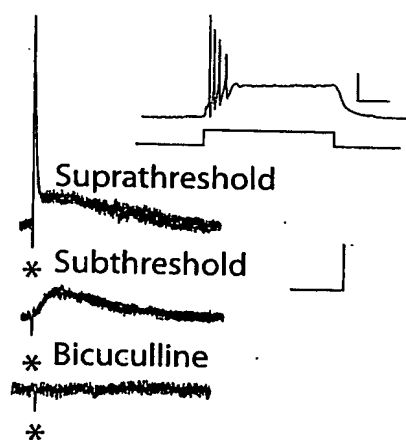
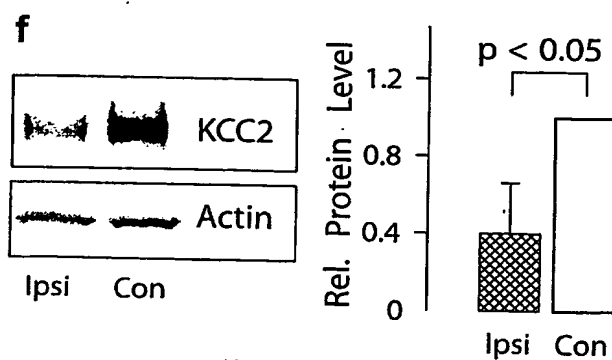
FIG. 2D

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**FIG. 2E****FIG. 2F**

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**FIG. 3A****FIG. 3B****FIG. 3C**

**FIG. 3D****FIG. 3E****FIG. 3F**

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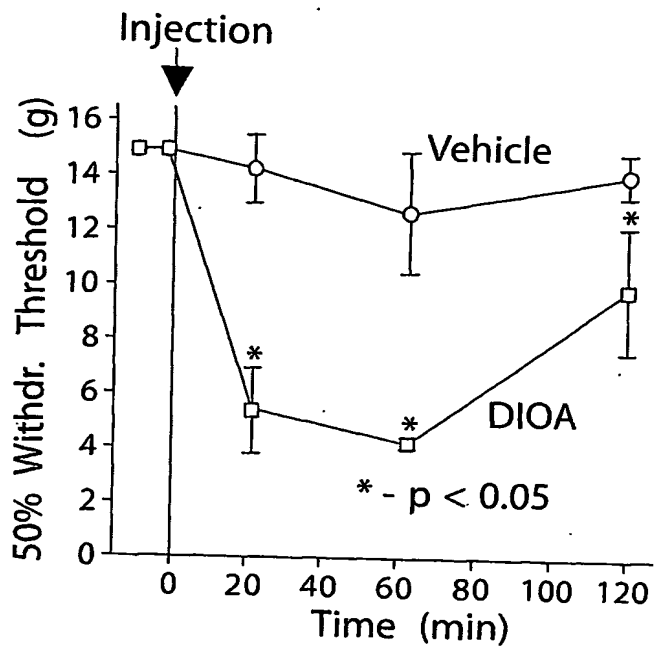


FIG. 4A

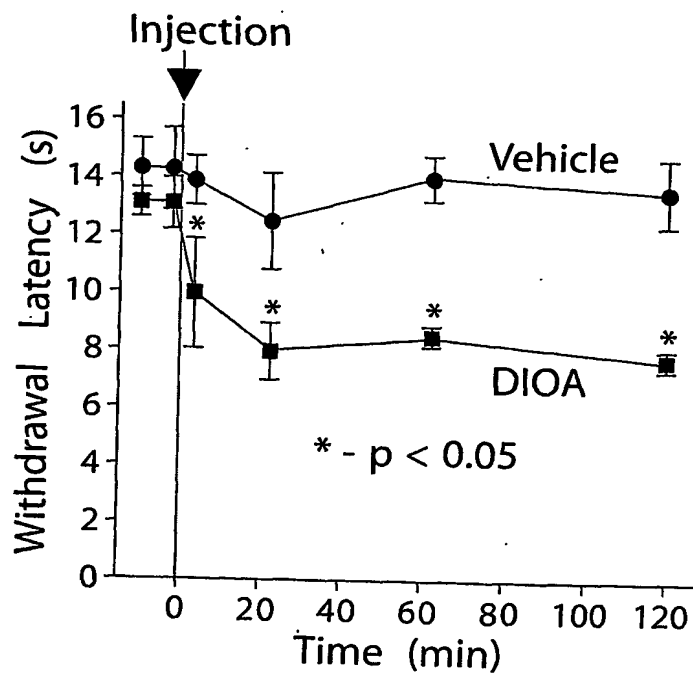
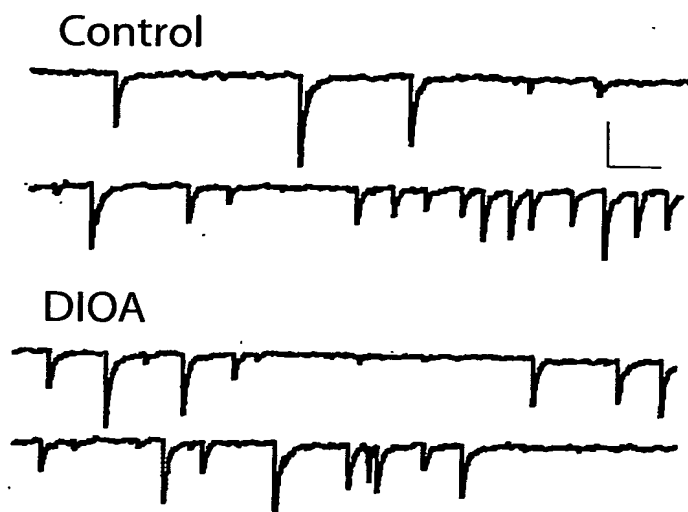
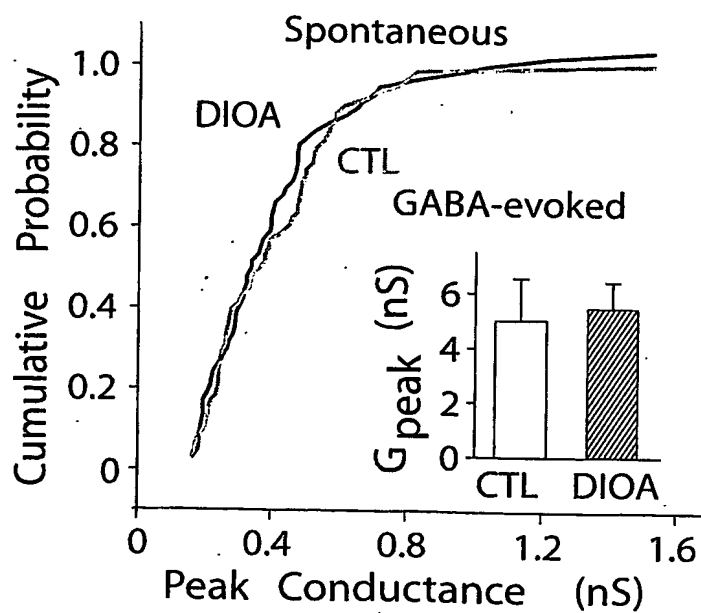
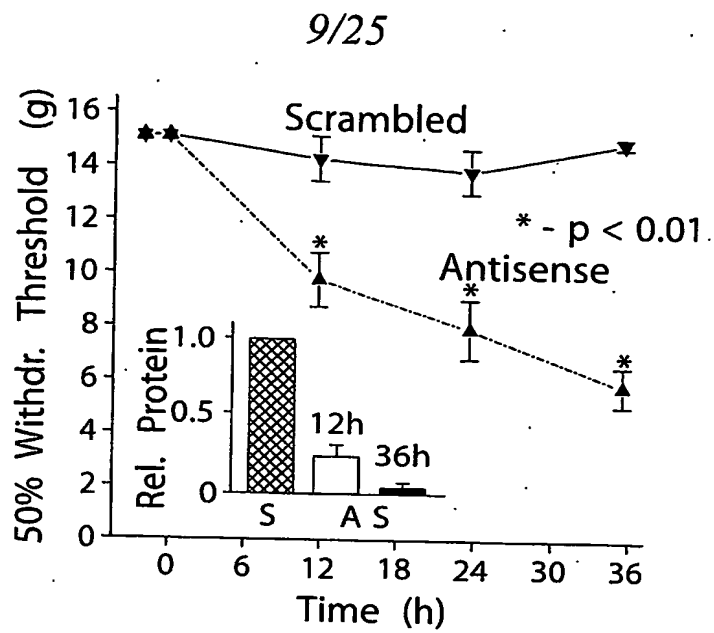


FIG. 4B

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**FIG. 4C****FIG. 4D**



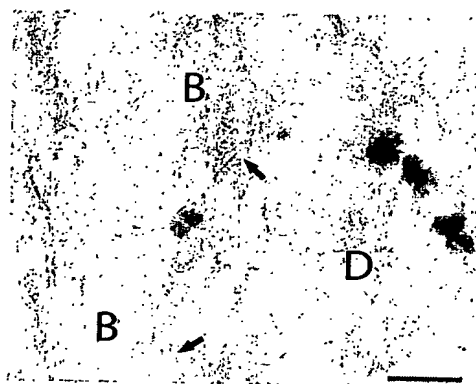
**FIG. 4E**

Naive: SDH DRG

KCC2



Actin

**FIG. 4F****FIG. 4G**

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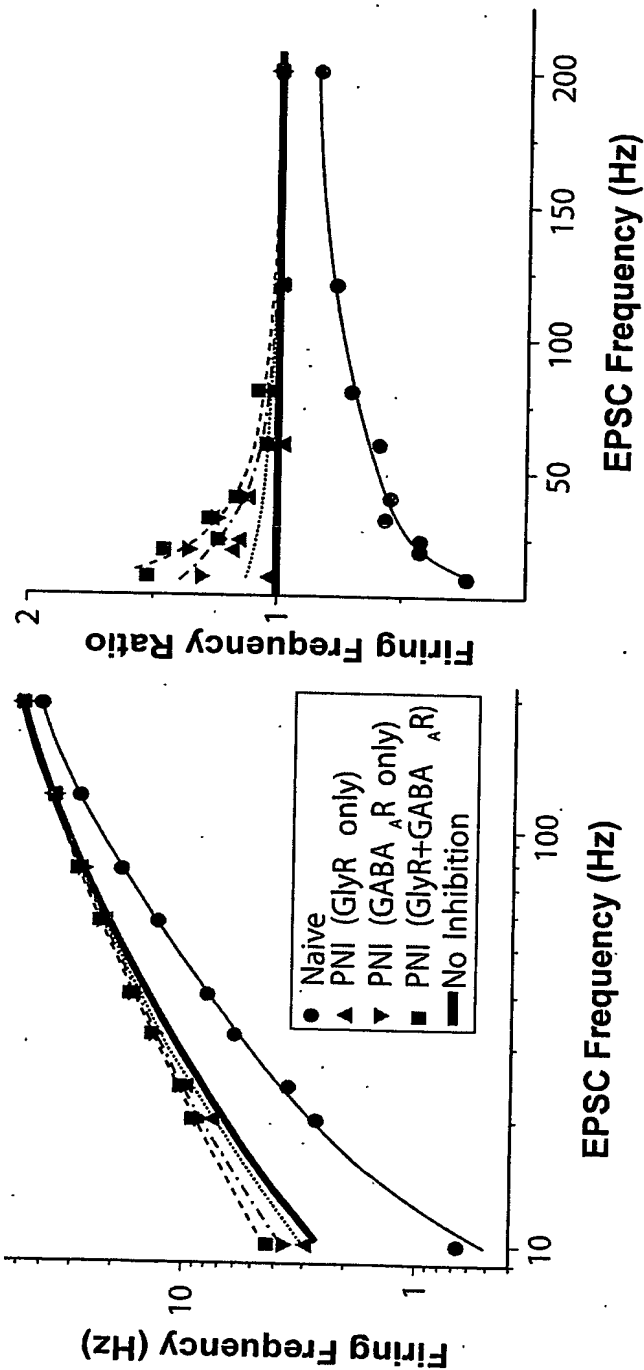


FIG. 5A

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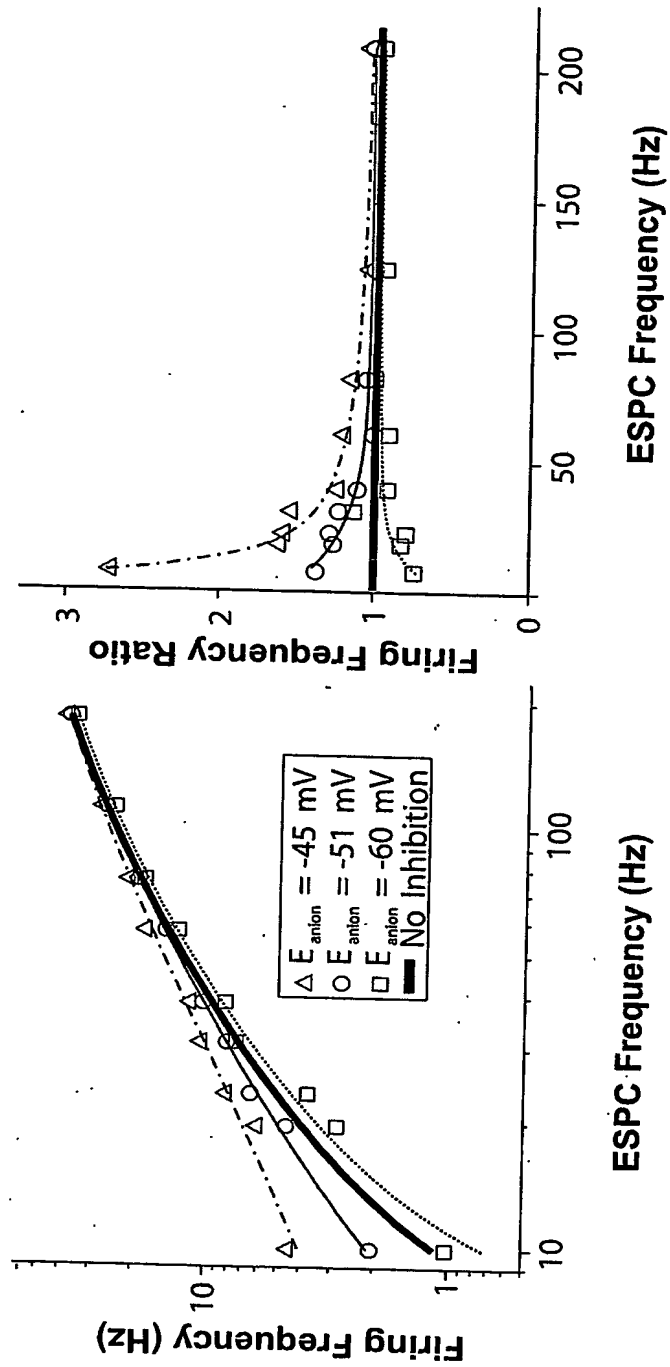
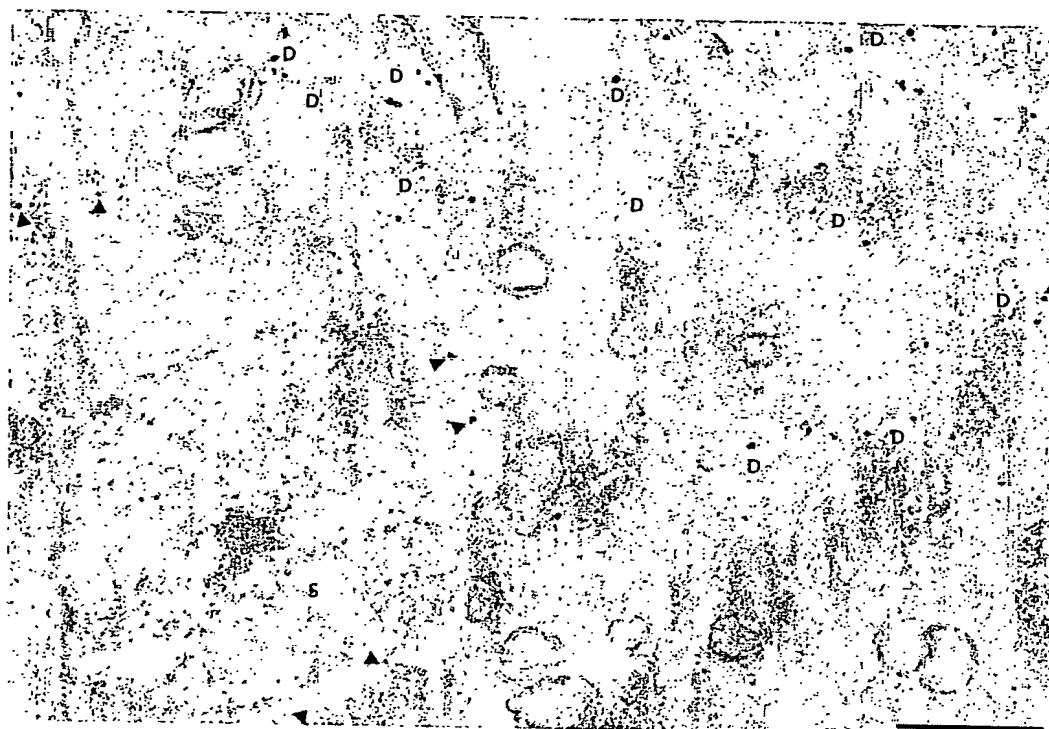
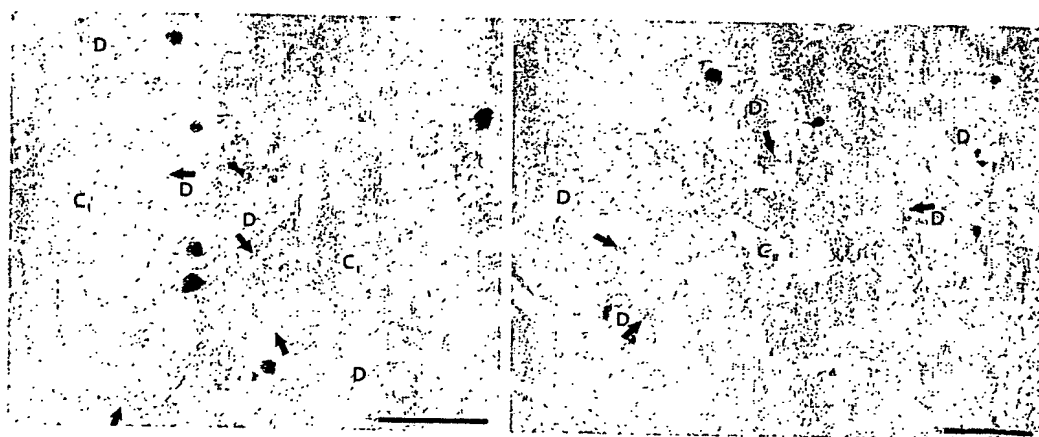


FIG. 5B

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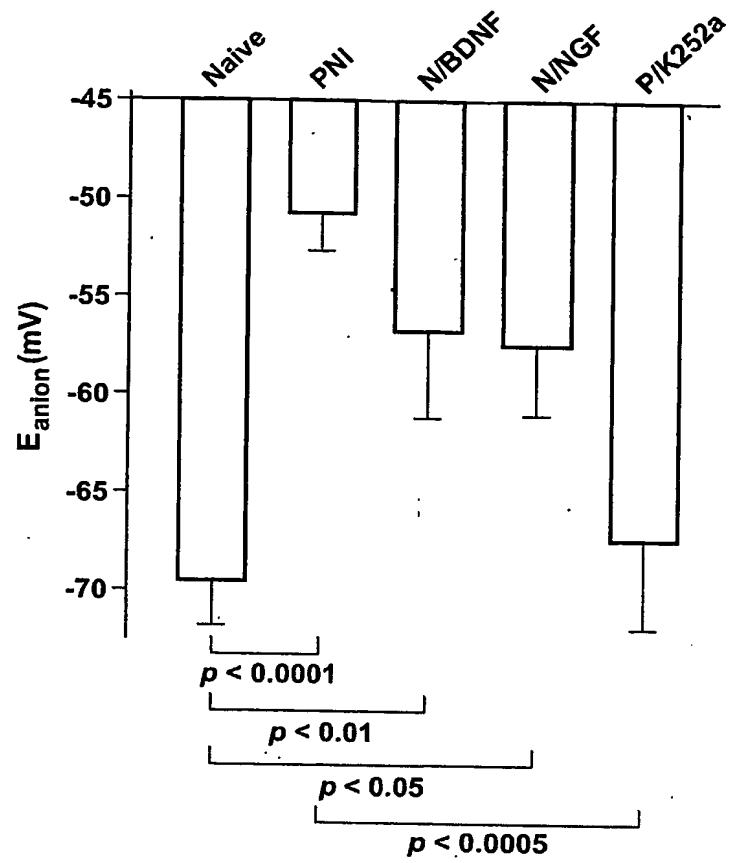


**FIG. 6A**

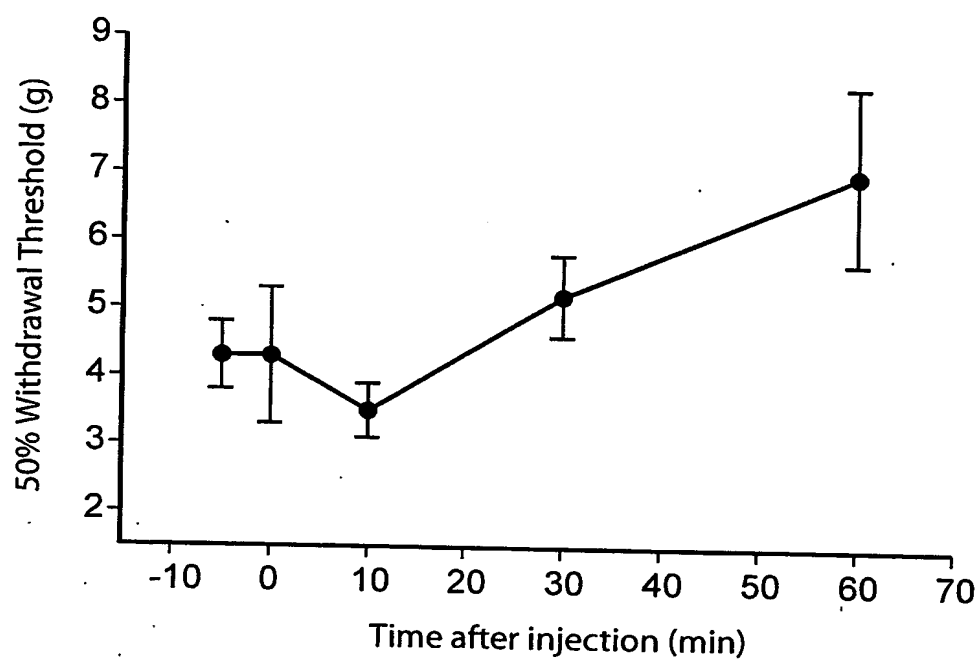


**FIG. 6B**

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**FIG. 7**

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**FIG. 8**

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## Human KCC2 polypeptide and DNA sequences

(Mount, D.B. and Song, L. (2002) Brain Res. Mol.. Brain Res. 103 (1-2), 91-105; ACCESSION: AF208159)

Human KCC2 polypeptide (SEQ ID NO:2):

MPNNLTDCEDGDGGANPGDGNPKESSPFINSTDEKGKEYDGKN  
MALFEEEMDTSPMVSSLLSGLANYTNLPQGSREHEEAENNEGGKKKPVQAPRMGTFMG  
VYLPCLQNIIFGVILFLRLTWVVGIAGIMESFCMVFICCSCTMLTAISMSAIATNGVVP  
AGGSYYMISRSLGPEFGGAVGLCFYLGTTFAGAMYILGTIEILLAYLFPAMAIFKAED  
ASGEAAAMLNNMRVYGTCTVLTCTMATVVFVGKYNKFAVLFLGCVILSILAIYAGVIK  
SAFDPPNFPICLLGNRTLNRHGFVCAKLAWEGETVTTTLWGLFCSSRFLNATCDEY  
FTRNNVTEIQGIPGAASGLIKENLWSSYLTGKVIVERSGMTSVGLADGTPIDMDHPYV  
FSDMTSYFTLLVGIYFSPVTGIMAGSNRSGDLRDAQSIPTGTILAIATTSAVYISSV  
VLFGACIEGVVLRDKFGEAVNGNLVVGTLAWPSPWVIVIGSFFSTCGAGLQSLTGAPR  
LLQAISRDLGIVPFLQVFGHGKANGEPTWALLLTACICEIGILIASLDEVAPILSMFFL  
MCYMFVNLAQVQTLRLTPNWRPRFRYYHWTLSFLGMSLCLALMFICSWYYALVAMLI  
AGLIYKYIEYRGAEKEWGDGIRGLSLSAARYALLRLEEGPPHTKNWRPQLLVLRVDQ  
DQNVVHPQLLSLTSQKAGKGLTIVGSLVLEGTFLNHPQAQRAEESIRRLMEAEKVKG  
FCQVVISSNLRDGVSHLIQSGGLGGLQHNTVLVGWPRNWRQKEDHQTWRNFIELVRET  
TAGHLALLVTKNVSMFPGNPERFSEGSIDVWWIVHDGGMMLLPFLLRHHKVWRKCKM  
RIFTVAQMDDNSIQMKDLTTFLYHLRITAEEVEMHESDISAYTYEKTLMVEQRSQ  
ILKQMHILTKNEREREIQSITDESRSIRRKNPANTRLRLNVPEETAGDSEEKPEEEVQ  
LIHDQSAPSCPSSSPSPGEEPEGEGETDPEKVHLTWTKDKSVAEKNKGPSVPSSEGIK  
DFFSMKPEWENLNQSNVRRMHTAVRLNEVIVKKSRAKLVLNMPGPPRNRNGDENYM  
EFLEVLTEHLDRVMLVRGGGREVITIYS

Human KCC2 DNA (SEQ ID NO:1):

1	atgcccaaca	acctgacgga	ctgcgaggac	ggcgatgggg	gagccaaccc	gggtgatggc
61	aaccccaagg	aaagcagtcc	cttcatcaac	agcaccgaca	cagagaaggg	aaaggagtat
121	gatggcaaga	acatggcctt	gtttgaggag	gagatggaca	ccagccctat	ggtgtcctcc
181	ttgctcagtg	gcctggccaa	ctacaccaac	ctgccccagg	gaagtaggga	gcatgaagag
241	gcagaaaaca	atgaggggtg	aaaaaagaag	ccggtgcagg	ccccacgcat	gggcaccttc
301	atgggcgtgt	acctgccgtg	cctgcagaac	atctttggcg	tcatcctctt	cctgcggctc
361	acctgggtgg	tgggcattgc	aggcatcatg	gagtccttct	gcatgggtgt	catctgctgc

FIG. 9

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421 tcctgtacga tgctcacggc catctccatg agtgcaattg caacgaatgg tgttgtgcct
481 gctgggtggct cctactacat gatttccagg tctctggggc cagagtttgg ggggtgccgtg
541 ggccctctgct tctacctggg cactaccttt gcaggagcca tgtacatcct gggcaccatc
601 gaaatcctgc tggttacct cttcccagcc atggccatct tcaaggcaga agatgccagt
661 ggggaggcag cagccatgct gaacaacatg cgtgtttacg gcacctgtgt gctcacctgc
721 atggccactg tgggtgttgt cctggtcaag tatgtcaaca agtttgccct tgtcttctctg
781 gggtgtgtca tctctcccat cctggccatc tatgctgggg tcatcaagtc tggcttcgac
841 ccaccaact tcccgatctg cctcctgggt aaccgcacgc tgtctcgcca tggctttgat
901 gtctgtgcca agctggcttg ggaaggaaat gagacgggta ccacacgggt atggggcctt
961 ttctgtctct ctgcttctct agggcatccc tgggtgctgcc agtggcctca tcaaaagaaa cctctggagc
1021 acagagatcc ccaagggcgt gattgtggag aggagtggga tgacctcggt gggcctggcc
1081 tctacctga ctatcgacat ggaccacct tatgtcttca gtgatagac ctctacttc
1141 gatggcactc ttggcatcta cttcccctca gtcacaggga tcatggctgg tctaaccgc
1201 accctgctgg ttggcatcta ccagaagtca atccccactg gcacctcctt ggccatcgcc
1261 tctggggacc ctgtctacat cagctccgtt gttctgtttg gggcctgcat tgagggggctc
1321 accacctctg acaagtttgg cgaagctgtg aatggcaacc tcttcttctt ccacctgtgg ggctgggctg
1381 gtccctgcgg catgggtaat acgctgctg caggccatct cgagggatgg cattgtgccc
1441 tggccatctc cggggggccc tctttggcca aatggagagc cgacctgggc cctgctcctg
1501 cagagcctca cggggggccc tctgcgagat attgcatccc tcgacgaggt ggccccatc
1561 ttccctgcagg tctttggcca tttgtgaatc tggcctgtgc agtgcagacg cctctccttc
1621 actgcctgca tctgctgat tcttctgat accactggac cctggtatta tgcactggta
1681 ctctctatgt ccttctgat caccactg ggcctctgat ttcatctgct accgtggggc agagaaggag
1741 ctgctgagga gacctgacct gacctgacct gctatgcccc cttacgcctg gctatgcccc
1801 ctgggcatga gacctgacct gacctgacct gctatgcccc ggtgctctg ggtgctctg
1861 gccatgctca ttgctggact ggatacgagg cccacacacac tgcctgctgct tgcactggta
1921 tggggcgatg ggatacgagg cccacacacac tgcctgctgct agagaaggag gctatgcccc
1981 gaggaagggc cccacacacac tgcctgctgct agagaaggag gctatgcccc cttacgcctg
2041 gaccaagacc agaagtggtg tgacctcgtt gggcagagaa ggtgaagggc gatccagtc
2101 ggggaagggc tgacctcgtt gggcagagaa ggtgaagggc gatccagtc
2161 caggcccagc gggcagagaa ggtgaagggc gatccagtc
2221 ttctgccagg tgggtgatct cccaacttg gctatcagg cgcctgatgg aggcagagaa
2281 gggggcctcg gggggctgca cccaacttg gctatcagg cgcctgatgg aggcagagaa
2341 cagaaggaag atcatcagac gctatcagg cgcctgatgg aggcagagaa
2401 ggccacttag ccctgctggt tgctgcggca ccacaaggtc tggcggaagt atgaagaagg
2461 ttctctgagg gcagcatcga tggatgacaa tagcatccag gtgcagagtg
2521 ttgcccttcc tgcctgcggc tggatgacaa tagcatccag gtgcagagtg
2581 gtggcccaga tggatgacaa tagcatccag gtgcagagtg
2641 catttacgca tccactgcgg agaagacgtt ggtgatggag gctggagatc
2701 tacacctatg agaagacgtt ggtgatggag gctggagatc
2761 ttaaccaaga atgagcggga gctggagatc caacacgcgg agaggaggag
2821 atccggagaa agaatccagc aagagaagcc agaggaggag gaggagcctg
2881 ggtgacagtg aagagaagcc aagagaagcc agaggaggag gaggagcctg
2941 agctgcccc aagagaagcc aagagaagcc agaggaggag gaggagcctg
3001 ccggagaagg tgcattcac cagctcccc gctcccagg gaggagcctg
3061 ccagtcctg tctcctctga tctcctctga gggcatcaag gacttcttca
3121 aacttgaacc agtccaacgt gctcccagg gaggagcctg gacttcttca
3181 gtgaagaaat cccgggacgc caagcttgtt ttgctcaaca ctcgaggtcc
3241 cgcaatggtg atgaaaacta catggagttt gtcacacca cgcggctccg
3301 gtgatgctgg tccgcgggtg tggccgagag gtcacacca cgcggctccg
3361 cctgccaccc gggcccgagc ggcggcgcc acagaccctg tgcctgtgc
3421 gccgctgtca ccgtttacat ctgttggggc agtttggccc ctgggtcttc
3481 ctgaagcccg gaggccacgc cctcagtgcc gacgtgcaa taaaggttgg
3541 gaccagagct cctcagtgcc ccttggggac cccaggtag tccatgcggc
3601 ggcctcgtct ccttggggac cccaggtag tccatgcggc
3661 ggagctgggg ccttggggac cccaggtag tccatgcggc
3721 cccgcccggg tctcgtctct cccgctctcc cgcgtcctcc cgtctccgce
3781 agggcccgcg ggtgggaagg ccgctctctc gctctccgce
3841 ggggcccggg cggccgagcc tatacatagt gtacaggaga catcgctgtt

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FIG. 9 (Continued)



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3901 tccccatatt tatgtgacta gaagcgcaac agacttctcg ccatagtcca gctctcccgc
3961 tggggggcaact gcgggggaggc gaggcctcgg gaagctgaat ttcccttgac gtccaagagt
4021 ttgagagcgga aagtgccttta ggcccaggcg ggggtcgtgg cctcgttccc tcgacacctc
4081 cgtcctgctc tcgctctctc gccctttccg cgcgcccttg gcttcccacc ctctctcca
4141 gtccttttcc gagatgaggt gagacaaggg tccaactttt cctggattcg cctccagcg
4201 gacgtgagct tccactgcgg ctgcagagac gcgagcaacc tcttctcatc ggctcttatg
4261 caagttaggg ccaggatagg ggaggggtgc tcctcaagag gaagaaaccg agaggcccgc
4321 gccccaccga ggaagcccg ccccggtgcc ttcgctgggg agcaggcgctc tctcctcagt
4381 cggttgtcg cctgctcccc gtatcccatg gctcctcgcc aaagactgaa attgtggagc
4441 tggagggcgc cccctccccg gattttctc cctgggacaa gtgagggagg agggggccga
4501 ttctgggttta ggggcccggac cactgagag gccccagagc cgcccgatgat gttcctcccc
4561 cgtccccatc tggcagctcc tgtctcgct gcagcggcct ctagctccgt ctcccgggga cctgggcctg
4621 gggcggggcc tcgctgctta gcagcggcct ctagctccgt ctcccgggga cctgggcctg
4681 agggaggggt ggagtcagca cgcgcttgt ccttagcgcc tgtctgctct cctctaacta
4741 ggagccaggg cctttggctt cccagctca tccttgccc ttccgctcca ccagcctggt
4801 ctgagggcgtg ctctgtcctt agagaaggcg cgggtggcgg gttccagcac catctgggac tgggtacagt
4861 attactaagg gggtcaggca ctgcatgctc gttccagcac catctgggac tgggtacagt
4921 acctccagcc ccaggggcct gacctgcgca cctagcttga catctcacgc acctcccaga
4981 gctggcgcca ctgagtaatc cggacctcac cactctttt cctttgagcc caaggcagag
5041 ctagagctgg agctggcgcc acccagacag cgtcaggtgt ggctggggta ggtttggagg
5101 tctgccagtt acgccaagtc cctctgaga ttcgatcagg ggactggata gattctttca
5161 ggtactcaat caggaagctg gaggtgtag acaccagccc cctgcacct ctagtagacc
5221 tccctctgaa caccacagcc aggtcctgcc ttctgggggc ctgaatattc cagagctgat
5281 gtgatgggct gtgcagaagg gggctgtatc aacatcaatt aggggaaccaa agttgcacta
5341 tctgggcccc gattgtctgg ttggcaagag caaagtttcc gttgatgaaa cagacatccc
5401 acaacaaaaa cccaagttt ctgtgctaca tgtgcaatat ttgttatgaa tgttatcaca
5461 agtcattcat caagttatct ttataatcac tgtagttaga tgtttcatgt ccattcaagt
5521 gacttttatt ctgagtgcga ttttcaata gccttgtagt gataactagt gttgcttttg
5581 tttagatgat ctatgtgcag ggcaatgcaa tgaagttgaa accccttggg aataggagag
5641 gttgcaaacc aaatcaagag tatttattac tattactgct attattatta ggcctgcctt
5701 taattttcag tgtaagtgtt cagtatgcc catcctgcct cagtattgat cttgtgttct
5761 ttgtgccaat atgaaaagga gaggggttgt tctttccttt attgttgaat gctcccattt
5821 aatgctttat ggcttttact gtattacttt ttagactcc cgtctgcaca aaatgcaata
5881 aaaataattt tattataaaa aaaaaaa

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FIG. 9 (Continued)

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Mouse KCC2 (K-Cl cotransporter [Slc12a5])  
polypeptide and DNA sequences

(Ehringer, M.A., et al. (2001) Mamm. Genome 12 (8), 657-663;  
ACCESSION: AF332064)

Mouse KCC2 polypeptide (SEQ ID NO:4):

MLNNLTDCEDGDGGANPGDGNPKESSPFINSTDEKGREYDGRN  
MALFEEEMDTSPMVSSLLSGLANYTNLPQGSREHEEAENNEGGKKKPVQAPRMGTFMG  
VYLPCLQNIFGVILFLRLTWVVGIAGIMESFCMVFICCSCTMLTAISMSAIATNGVVP  
AGGSYYMISRSLGPEFGGAVGLCFYLGTTFAGAMYILGTIEILLAYLFPAMAIFKAED  
ASGEAAAMLNNMRVYGTCVLTCMATVVVGVGVKYNKFALVFLGCVILSILAIYAGVIK  
SAFDPPNFPICLLGNRTLNRHGFDVCAKLAWEGETVTTTLWGLFCSSRLLNATCDEY  
FTRNNVTEIQGIPGAASGLIKENLWSSYLTGKGVIVERRGMPVGLADGTPVDMHPYV  
FSDMTSYFTLLVGIYFPSVTGIMAGSNRSGDLRDAQSIPTGTILAIATTSAVYISSV  
VLFGACIEGVVLRDKFGEAVNGNLVVGTLAWPSPWVIVIGSFFSTCGAGLQSLTGAPR  
LLQAISRDGIVPFLQVFGHGKANGEPTWALLLTACICEIGILIASLDEVAPILSMFFL  
MCYMFVNLAQVQTLRLTPNWRPRFRYYHWTLNLSFLGMSLCLALMFICSWYYALVAMLI  
AGLIYKYIEYRGAEKEWGDGIRGLSLAARYALLRLEEGPPHTKNWRPQLLVLRVDQ  
DQNVVHPQLLSLTSQKAGKGLTIVGSVLEGTFLDNHPQAQRAEESIRRLMEAEKVKG  
FCQVVISSNLRDGVSHLIQSGGLGGLQHNTVLVGWPRNWRQKEDHQTWRNFIELVRET  
TAGHLALLVTKNVSMFPGNPERFSEGSIDVWWIVHDGGMMLLPFLLRHHKVWRKCKM  
RIFTVAQMDDNSIQMKKDLTTFYHLRITAEVEVEMHESDISAYTYEKTIVMEQRSQ  
ILKQMHILTNEREREIQSITDESIRKSIRKNPANPRLRLNVPEETACDNEEKPEEEVQ  
LIHDQSAPSCPSSSPSPGEEPEGERETDPEVHLTWTKDKSVAEKNKGPSFVSSEGIKD  
FFSMKPEWENLNQSNVRRMHTAVRLNEVI VNKSRDAKLVLNMPGPPRNRNGDENYME  
FLEVLTEQLDRVMLVRGGGREVITIYS

Mouse KCC2 DNA (SEQ ID NO:3):

1 gagcaagcga gcgagcggag aaggcgggca gaggggcgcg ggcaagcgg cgcagccatc  
61 ccgagcccgg cgcgcgcgag ccaccatgct caacaacctg acggactgcg aggacggcga  
121 tgggggagcc aaccccggtg atggcaacct caaagagagc agtcccttca tcaacagcac  
181 ggacacggag aagggcagag agtacgatgg caggaacatg gccctgtttg aggaggagat  
241 ggacaccagc cccatggtat cctccctgct cagtgggctg gccaaactaca ccaacctacc  
301 ccaggaagat agagagcatg aagaagcaga aaataatgag ggtggaaaaa agaagccggt

**FIG. 10**

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361 gcaggctcct cgaatgggca ccttcattggg tgtgtacctg ccgtgcctgc agaacatctt
421 tgggtgtcatc ctcttcctgc ggctcacgtg ggtgggtgggc atcgcgggca tcatggagtc
481 cttctgtatg gtcttcattt gctgtcctg tacgatgctc acagccattt ccatgagtgc
541 aatcgcaacc aatgggtgtt tgctgtctgg tggctcgtac tacatgattt ccaggctctc
601 gggcccgag tttggggcg ccgtgggcct ctgcttctac ctgggcacca cctttgctgg
661 ggctatgtac atccttgga cgatcgagat cctgctggct tatctcttcc cagctatggc
721 catcttcaag gcagaagatg ccagtgggga ggcggccgcc atgctgaaca acatgcgggt
781 gtatggcacc tgtgtgctca cctgcatggc caccgtgtgc tttgtgggtg tcaagtacgt
841 caacaagttt gccttggctc tectgggttg egtcatcctg tccatcctgg ccatctatgc
901 aggggtcatc aagtctgcct tcgacccacc caatttcccg atctgcctcc tggggaaccg
961 cagctgtctc cgccatggct ttgatgtctg tgccaagctg gcttgggaag gaaatgagac
1021 agtgaccaca cggctctggg gcctttctctg ctectccgc ctctcaatg ccacctgtga
1081 tgagtacttc accgaaaca atgtcacaga gatccagggc attcctgggtg ctgccagtgg
1141 tctcatcaaa gagaacctgt ggagttctta cctgacaaaa ggggtgattg tcgagaggcg
1201 tgggatgccc tctgtgggccc tggcagacgg taccctcgta gacatggacc acccctatgt
1261 cttcagtgat atgacctcct acttcacct gctcgttggg atctacttcc cctcagtcac
1321 agggatcatg gctggctcaa accgatctgg agacctgcgg gatgccaga agtctatccc
1381 tactggaact atcctggcca ttgctaccac ctctgctgtc tacatcagct ctgttgttct
1441 gtttggagcc tgcacgagg gggctcgtctt acgggacaag tttggggaag ctgtgaatgg
1501 caacttgggt gtgggcaccc tggcctggcc ttctccctgg gtcacgtca taggctcttt
1561 cttctctacc tgtggggctg gattacagag cctcacaggg gccccacgtc tgctgcaggc
1621 catctcccgg gatggcatag tgcccttctc gcaggtcttt ggccatggca aagctaattg
1681 agagccaacc tgggcgctgc tgctgactgc ctgcatctgt gagatcggca tctcatagc
1741 ctccctggat gaggtcgccc ctatacttct catgttcttc ctaatgtgtt acatgtttgt
1801 gaacttggct tgtgcgggtg agacgctgct gaggacaccc aactggaggc cagatttctg
1861 ctattaccac tggactctct ccttcctggg catgagcctc tgccctggcc tcatgttcat
1921 ttgctcctgg tactacgcac tgggtggccat gctcattgcc ggactcattt ataagtacat
1981 cgagtaccgg ggggcggaga aggagtggg ggatggaatc cgaggcctgt ctctcagtgc
2041 agcacgctat gctctcttgc gcctggagga aggacctccg catacgaaga actggaggcc
2101 ccagctgctg gtgctgggtg gtgtggacca ggatcagaac gtggtgcac cgcagctgct
2161 ctccctgacc tcccagctca aggcaggaa gggcctgacc attgtgggtc ccgtccttga
2221 gggcaccttt ctggacaacc atccacaggc tcagcgggca gaggagtcta tcaggcgctc
2281 gatggaggct gagaagggtg agggcttctg ccaggtagtg atctcctcca acctgcgtga
2341 tgggtgtgtc cactgatcc agtctggggg cctcggggga ttgcaacaca ataccgtgct
2401 ggtgggctgg cctcgcaact ggaggcagaa ggaggatcat cagacatgga ggaacttcat
2461 cgaactggtc cgggaaacta cagccggcca cctcgccctg ctggtcacca agaattgttc
2521 catgtttccc gggaaacctg agcgcttctc ggaggggcagc attgacgtgt ggtggattgt
2581 gcacgacggg ggcagctca tgcctgtgcc cttcctgctg cgacaccaca aggtctggag
2641 gaaatgcaaa atgcggtatc tcaccgtggc ccagatggac gataacagta tccagatgaa
2701 gaaggacctg accacgtttc tgtaccactt acgcattact gcagagggtg aggtgggtgga
2761 gatgcatgag agcgacatct cggcatacac ctacgagaag acattagtaa tggagcaacg
2821 atctcagatc ctcaaacaga tgcacctcac caagaacgag cgggaacggg agatccagag
2881 catcacagac gagtctcggg gctccattcg gaggaagaat ccagccaacc cccggctccg
2941 cctcaatgtt cccgaagaga cagcgtgtga caatgaggag aagccagagg aggaggtgca
3001 gctgatccat gaccagagtg ctcccagctg ccctagcagc tcgccatctc caggggagga
3061 gcccgagggg gagagggaga cagaccaga ggtgcatctt acctggacca aggataagtc
3121 agtggcagag aagaataaag gccccagtc cgtctcctcc gagggcatca aggaactctt
3181 cagcatgaag ccggagtggg aaaacttgaa ccagtcctaat gtacggcgca tgcacacagc
3241 tgtcggtgct aacgaggtca tcgtgaataa atctcgggat gccaagctag ttttgcctaa
3301 catgcccggg cctccccgca accgcaatgg ggtgaaaac tacatggaat tcttggaggt
3361 cctcactgag caactggacc ggggtgatgt ggtccgctgg ggcggccgag aggtcatcac
3421 catctactcc tgaaggccag gacctgccac tccggcccg ggcggcccg cccgcccgc
3481 ccagagccct cgcgcgcct ccccgccgt gtcaccgttt acataagacc cagttgccc
3541 tgccctggcc cctttccttc ccgtgcctg cagccctgag gccttgccc tcggggctga
3601 cccgcagggc ggcccgtag gcccttttc tgagcctggc ctgcgccgc cggagc

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FIG. 10 (Continued)

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## Rat KCC2 polypeptide and DNA sequences

(Payne, J.A., et al., (1996) J. Biol. Chem. 271 (27), 16245-16252; Gillen, C.M., et al., (1996) J. Biol. Chem. 271 (27), 16237-16244; ACCESSION: U55816)

Rat KCC2 polypeptide (SEQ ID NO:6):

MLNNLTDCEDGDGGANPGDGNPKESSPFINSTDEKGREYDGRN  
MALFEEEMDTSPMVSSLLSGLANYTNLPQGSKEHEEAENNEGGKKKPVQAPRMGTFMG  
VYLPCLQNIQFVILFLRLTWVVGIAGIMESFCMVFICCSCTMLTAISMSAIATNGVVP  
AGGSYYMISRSLGPEFGGAVGLCFYLGTTFAGAMYILGTIEILLAYLFPAMAIKAED  
ASGEAAAMLNNMRVYGTCVLTCMATVVFVGKYNKFALVFLGCVILSILAIYAGVIK  
SAFDPPNFPICLLGNRTLSRHGFDVCAKLAWEGNETVTTRLWGLFCSSRLLNATCDEY  
FTRNNVTEIQGIPGAASGLIKENLWSSYLTGKGVIVERRGMPSPVGLADGTPVDMHPYV  
FSDMTSYFTLLVGIYFPSVTGIMAGSNRSGDLRDAQSKIPTGTILAIATTSAVYISSV  
VLFGACIEGVVLRDKFGEAVNGNLVVGTLAWPSPWVIVIGSFFSTCGAGLQSLTGAPR  
LLQAI SRDGI VPF LQVFGHGKANGEPTWALLLTACICEIGILIASLDEVAPILSMFFL  
MCMFVNLACAVQTLRLTPNWRPRFRYYHWTLSFLGMSLCLALMFICSWYYALVAMLI  
AGLIYKYIEYRGAEKEWGDGIRGLSLSAARYALLRLEEGPPHTKNWRPQLLVLRVDQ  
DQNVVHPQLLSLTSQKAGKGLTIVGSVLEGTFLDNHPQAQRAEESIRRLMEAEKVKG  
FCQVVISSNLRDGVSHLIQSGGLGLQHNTVLVGWPRNWRQKEDHQTWRNFIELVRET  
TAGHLA LLVTKNVSMFPGNPERFSEGSIDVWWIVHDGGMLMLLPFLLRHHKVWRKCKM  
RIFTVAQMDDNSIQMKDLTTFPLYHLRITAEVEVVMHESDISAYTYEKTLMEQRSQ  
ILKQMHLLTKNEREREIQSITDESRSIRRKNPANTRLRLNVPBETACDNEEKPEEEVQ  
LIHDQSAPSCPSSSPSGEEPEGEGETDPEKVHLTWTKDKSAAQKNKGSPVSSSEGIK  
DFFSMKPEWENLNQSNVRRMHTAVRLNEVIVNKSRAKLVLNMPGPPRNRNGDENYM  
EFLEVLTEQLDRVMLVRGGGREVITIYS

Rat KCC2 DNA (SEQ ID NO:5):

1 ccgctccacg gagagcaagc gacagagctc gagcaagcga gcgagcggcg aaggcgggca  
61 gaggggcgcg ggcgaagagg cgcagccatc ccgagcccg cgccgcgcag ccaccatgct  
121 caacaacctg acggactgcg aggacggcga tgggggagcc aaccgggtg acggcaatcc  
181 caaggagagc agccccttca tcaacagcac ggacacggag aaggggagag agtatgatgg  
241 caggaacatg gccctgtttg aggaggagat ggacaccagc cccatggtat cctccctgct

FIG. 11

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301 cagtgggctg gccaaactaca ccaacctgcc tcaggggaage aaagagcacg aagaagcaga
361 aaacaatgag ggcggaaaga agaagccggt gcaggcccca cgcattgggca ccttcattggg
421 cgtgtacctc ccgtgcctgc agaactatctt tgggtgttacc ctctttctgc ggctcacttg
481 ggtggtggga atcgacggca tcatggagtc cttctgcatg gtcttcatct gctgctcctg
541 cacgatgctc acagccattt ccattgacgc aattgcaacc aatgggtgtg tgcctgctgg
601 tggctcctac tacatgattt ccaggtctctt gggcccgag tttggggcg ccgtgggcct
661 ctgcttctac ctgggcacta cctttgctgg ggctatgtac atcctgggca ccactgagat
721 cctgctggct tacctcttcc cagcagatggc catcttcaag gcagaagatg ccagtgggga
781 ggcagccgcc atgttgaata acatgcgggt gtatggcacc tgtgtgctca cctgcatggc
841 caccgtagtc tttgtggcg tcaagtacgt gaacaagttt gccctggctc tcctgggttg
901 cgtgatcctc tccatcctgg ccatctacgc aggggtcatc aagtctgcct tcgatccacc
961 caatttcccg atttgccctc tggggaaccg cacgtgtctc cgccatggct ttgatgtctg
1021 tgccaagctg gcttgggaag gaaatgagac agtgaccaca cggctctggg gcctattctg
1081 ttccctccgc ctctcaatg ccacctgtga tgagtacttc acccgaaaca atgtcacaga
1141 gatccagggc attcctgggt ctgcaagtgg cctcatcaaa gagaacctgt ggagtcccta
1201 cctgaccaag ggggtgatcg tggagaggcg tgggatgccc tctgtgggcc tggcagatgg
1261 taccctcggt gacatggacc accctatgt cttcagtgat atgacctcct acttcaccct
1321 gcttgttggc atctatttcc cctcagtcac agggatcatg gctggctcga accgggtccgg
1381 agacctgcgg gatgccaga agtctatccc tactggaact atcttggcca ttgctacgac
1441 ctctgctgtc tacatcagct ctgtgttctt gttcggagcc tgcatcgaag gggctcgtcct
1501 acgggacaag tttggggaag ctgtgaatgg caatctgggt gtgggcaccc tggcctggcc
1561 ttctccttgg gtcattgtca taggctcttt cttctctacc tgcggagctg gactacagag
1621 cctcacaggg gccccacgcc tgctgcaggc catctcccgg gatggcatag tgccttccct
1681 gcaggtcttt ggccatggca aagccaaagg agagccaacc tgggcgctgc tgctgactgc
1741 ctgcatctgt gagatcggca tctcatcgc ctccctggat gaggtcgccc ctactcttcc
1801 catgttcttc ctgatgtgtt acatgtttgt gaacttggct tgcgcggtgc agacactgct
1861 gaggacgccc aactggaggc cacgcttccg atattaccac tggacctctc ccttccctgg
1921 catgacctc tgccctggccc tgatgttcat ttgctcctgg tattatgcgc tggtagctat
1981 gctcatcgtc ggcctcatct ataagtacat cgagtaccgg ggggcagaga aggagtgggg
2041 ggatgggata cgaggcctgt ctctcagtc agctcgctat gctctcttgc gtctggagga
2101 aggacccccg catacaaaga actggaggcc ccagctactg gtgctgggtg gtgtggacca
2161 ggaccagaac gtggtgcacc cgcagctgct gtccttgacc tcccagctca aggcaggga
2221 gggcctgacc attgtgggct ctgtccttga gggcacctt ctggacaacc accctcaggc
2281 tcagcgggca gaggagtcta tccggcgcc gatggaggct gagaaggatg agggcttctg
2341 ccaggtagtg atctcctcca acctgcgtga cgggtgtgct cactgatcc aatccggggg
2401 cctcgggggc ctgcaacaca acactgtgct agtgggctgg cctcgcaact ggcgacagaa
2461 ggaggatcat ctggtcacca agaattgtt ccatctgctc cgggaaacta cagctggcca
2521 cctcgccctg attgacgtgt ggtggatcgt gcacgacggg gggaaacctg agcgtttctc
2581 tgaggggcagc cgtcaccaca aggtctggag gaaatgcaaa atgcggatct taccgtggc
2641 ctctcctcct gcagatggat gacaacagca ttcagatgaa gaaagacctg accacgttcc tgtaccactt
2701 gcagaggtgg acagtctgga aagtcgtgga gatgcacgag agcgacatct cagcatacac
2761 ctacgagaag acattggtaa tggaaacaag tctcagatc gaatctcggg gctccattcg
2821 caagaacgag cgggaacggg agatccagag catcacagat cccgaagaga cagcttgtga
2881 gaggaagaat ccagccaaca ctcggctccg cctcaatgtt cccgagagtg ctcccagctg
2941 caacgaggag aagccagaag caggggaggga gcctgagggg gagggggaga cagaccaga
3001 cctagcagc tcgccgtctc ctacactgga ccaaggataa gtcagcggtc cagaagaaca aaggccccag
3061 gaaggtgcat tcccgctctc tcggagggga tcaaggactt cttcagcatg aagccggagt gggaaaactt
3121 tcccgctctc aacgtgcggc gcatgcacac agctgtgcgg ctgaacgagg tcatcgtgaa
3181 gaaccagtcc gatgccaagt tgggtgttgc caacatgccc gggcctcccc gcaaccgcaa
3241 taaatcccgg aactacatgg aattcctgga ggtcctcact gagcaactgg accgggtgat
3301 tggagatgaa ggtggtggcc gagaggtcat caccatctac tctgaaggc ctcgcccgcg
3361 gctggtccgc cgagcgagcc cggcccgagg cctcgttggc cctcttccc tcccgtgccc
3421 cactccggcc ttacataaga cccgcttggc cgtcggggct gacccggagg gcggccctgt
3481 ctgtcaccgt aggccttggc cctcgccctg ccggagtaga cgttgcaata aaggtggcga
3541 tgccggccgg cctcgccctg ccggagtaga ccggcccgag gggcggcggt
3601 ctgagcccgg cctcgccctg ccggagtaga ccggcccgag gggcggcggt
3661 ctgagcccgg cctcgccctg ccggagtaga ccggcccgag gggcggcggt
3721 agaggagcgg aaccgtggtc ccggcccggg gagcccccag cccgtccctc

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FIG. 11 (Continued)

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3781 gccgcgctcc ccccggaacc tggctcgtga gcccgggcgc cgctcggtcg cgctatacat
3841 agtgtagagg agacatcgag tgtattttta atgtcccat atttctgtaa actagaaacg
3901 caacggactc ctgccacagg ccgcgctctc ccgctgcgg gcgcccagga aggcggagac
3961 ccgggaagcc agggttccct gcgctccga gctgagagcc aagtgttta aggcgggcgc
4021 tctcctttcc ctttctgtc cacggcccg gcttccctct cttccctcca gttcttggcg
4081 aacacaggtg aagccctgcc cgggtgcctt gtggaggagc aggcgtctct cctctgttgg
4141 cttgccgcct gctccccctg tcccggtggt cctcgccaaa gactgaattt gtggagctgg
4201 agggcacacc ctcccactt tccttctctg gacaggtgag gggccaatgc cagtctaggg
4261 gccgactcac aggaggctc gcgcagctc ttggtcccca ctctgcaagt cctgcctggg
4321 gacccagccc ccctggtggt tctggggcgg agctttgctg cctagcagca agtccttagt
4381 tactgtctcc agataccagg acctggagta gggaatggag tcatatgggt tcagttgttc
4441 ctggcgcttc tctgccccct gctcccccct tcccccctct gtaggacaca aggactttgg
4501 ctttcttaac tcatccttgg cgcttccgct ccaccacgcc cacctgtggg gaggagccct
4561 cagccctaga gaggcgtttg gctgggtccc ttccccagg gcacgttact aagaggacag
4621 gcactgcatg ctcttttaag cgccctctgg gactgggtac agtgccctca gcccagggc
4681 cctggtctgc gcacctagtt agacatcatt gccactcca gggccagggc cactagctga
4741 cctcaccacc tttttccttg agcccaaggc agagagagct gcagctgggt ccatctagac
4801 aggetcaagt gtggccagtg gcagggctcg agggccactg ccctgttget tggctcagga
4861 cctctctgag atttgatggg gactggatat tcttccagg agtagccatc aagtcggaag
4921 tgttggaccc aggacctgac attccttcaa gactgccctc cettgctgtg gttttgcctt
4981 ttggggcaag agaggggctg ggcaaacggg gaggaggcag tatcaacacc gattagggaa
5041 ccaaagtgtc actacctggg ccagcctct ggttggcaag agcaaagttt ctggtgatga
5101 aaacaaacag cccacaacaa ccccccccc cccgttttct gtgctccatg tgcaatattt
5161 gttatgaacc ttgtgtcggt caagtcacct ttataatcac tgtagctaga tgttccatgt
5221 ccatccaggt gactttactc tgagtgcaat atttcaatag cctggtagtg agaagagtgt
5281 tgcttttggt tcagccgacc tatgtgcagg gcaatgcaat gcagtccaaa acccttgtaa
5341 ataggagagg ttgcaagcca aatcaagagt atttatcggt attactatta ttattagggc
5401 tgcttttaac tttagtgttt cggtatctcg catcctgcct cggatttgat cgtgtgttct
5461 ctgtgccaat atgcaaagga gaggatcagt tctttccttt actgttgaat gctcccat
5521 actgctttaa ggcttttact gtgttcattt tttagatacc tgtctg

```

FIG. 11 (Continued)

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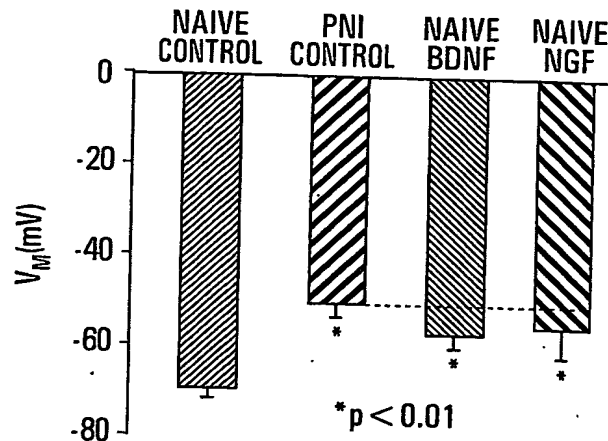


FIG. 12

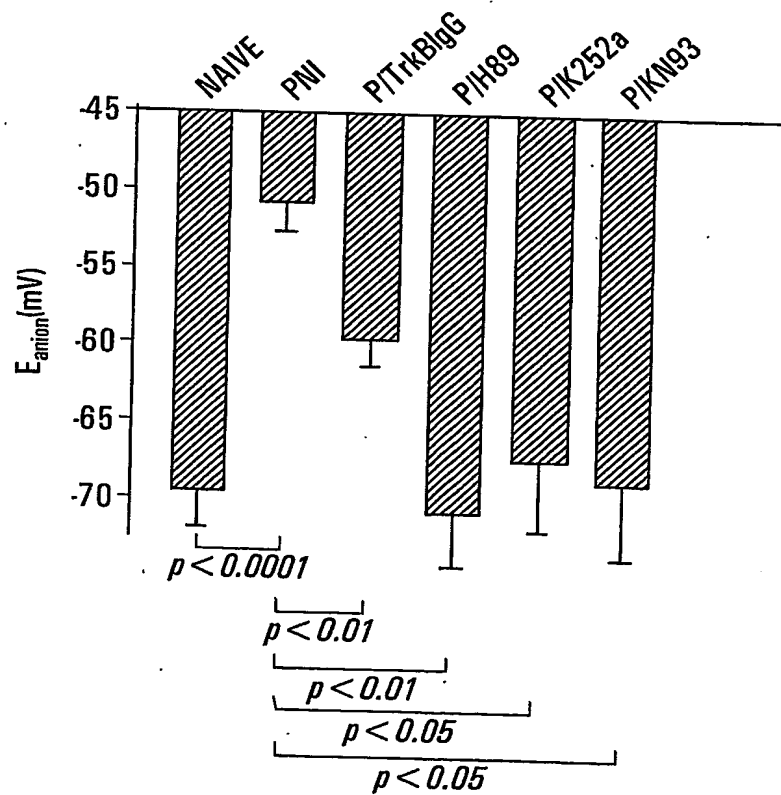


FIG. 13

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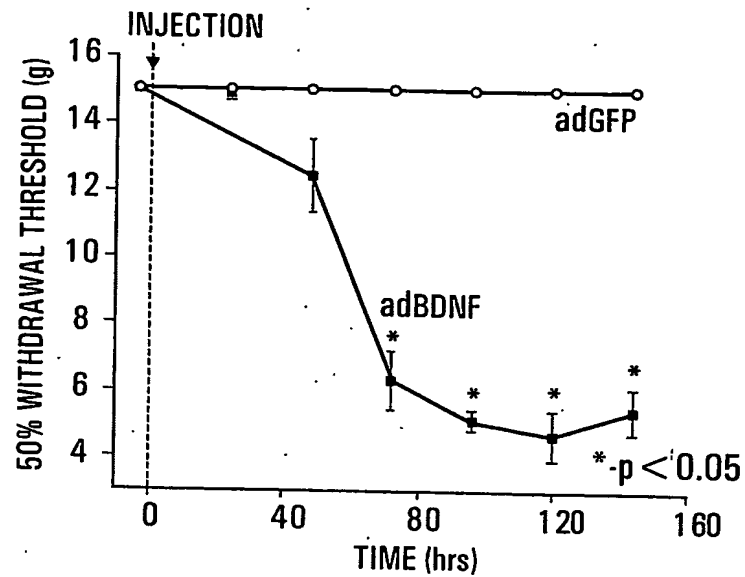


FIG. 14

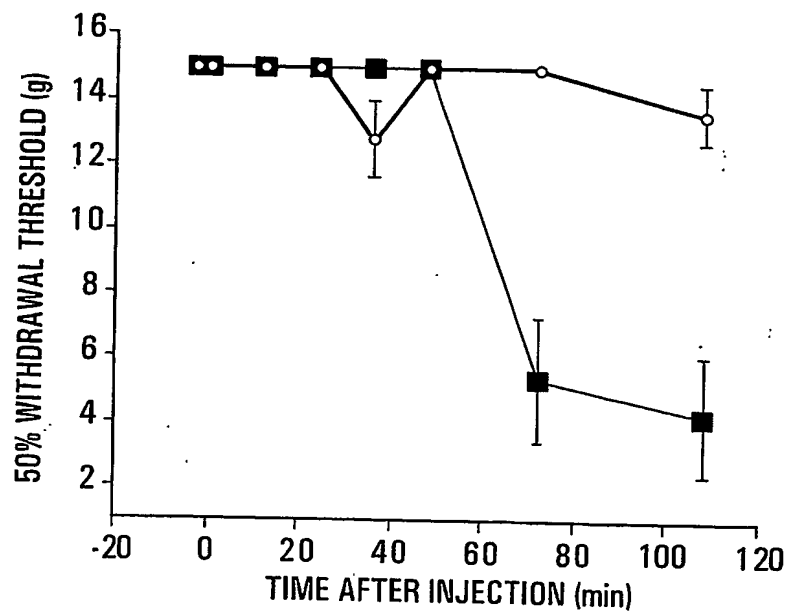


FIG. 15



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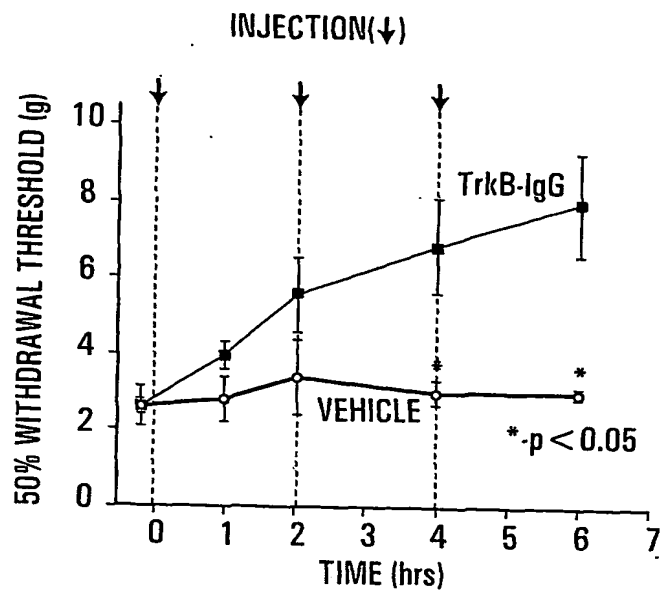


FIG. 16

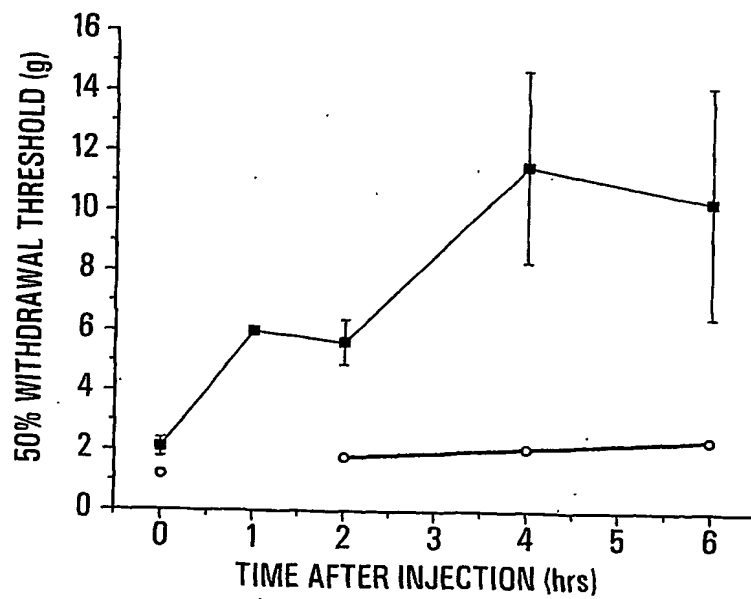


FIG. 17